



ALUMNI NEWS

CU Denver Chemistry Department *Fall 2014*

A Word from the Chair

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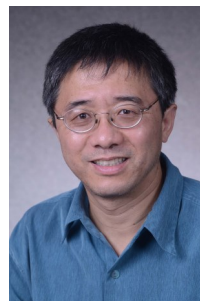
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With the close of my first fall semester at CU Denver, I reflect back on my arrival. I can hardly believe that I have been with the Department of Chemistry for four months. Having moved from southern New Mexico to Denver, there were a few adjustments I needed to make. The 40 degree temperature drops being one of them. Weather aside, I very much enjoy being part of a vibrant department and university.

We have an amazing group of faculty, staff, and students in the department that are creative, hard-working, full of energy and with good spirits. I thank them for making a serious commitment to research, teaching, and service to the community, which has made my job an enjoyable experience.

Over the past few years, the department has experienced a rapid growth in student credit hours, and Chemistry majors. With that said, faculty are working on further improving the department by developing new courses, and by converting some traditional courses into online courses. Furthermore, the department has transitioned into an active research environment. Out of the twelve tenure-track faculty members, five received competitive federal funding totaling \$2,740,000 (from CLAS Dean's office).

The total number of publications in peer-review journals has reached approximately twenty per year, and the number of publications are expected to increase in the near future. The department has also had various accomplishments this semester, some of them being: Dr. Hai Lin received the prestigious Henry Dreyfus Teacher-Scholar Award; the "boot camp" program, which is overseen by



Vanessa Fishback and Priscilla Burrow, received national attention in Chemical and Engineering News; and the Chemistry Club Student Chapter has been recognized as Commendable by the American Chemical Society.

All of these wonderful achievements occurred under the leadership of Professor Douglas Dyckes, who coached me during my initial months at CU Denver. Dr. Dyckes is preparing to retire in the next year, he will be missed very much and hope he will keep in touch. The department is truly grateful for his service.

So what is next for the Department of Chemistry you may ask. With such an impressive list of achievements and a group of young and energetic faculty, the department is ready to establish a Ph.D. program. It will not be easy, and it may take several years to launch the program, but we are ready for the task. Given the modest size of the department, we will concentrate on Computational and Applied Molecular Science which has been identified as the department's strengths. This includes sub-disciplines of Chemistry, Biochemistry, and Material Science, and will build upon collaborations with other departments, colleges, and the Anschutz Medical Campus. The majority of the current faculty members already have active research in this focus area. Next year, we will welcome two new faculty members, which will further strengthen the department. In the meantime, the department will work hard to raise funds by means of external grants, university support, and private sources.

It will be exciting to witness this major change in the department. I hope that you, our dear alumni, will join us to make this happen.

Sincerely,
Haobin Wang
Haobin Wang

New Faculty: Dr. Haobin Wang

This August, Haobin Wang joined the Department of Chemistry at the University of Colorado Denver, moving from New Mexico State University in Las Cruces, New Mexico.

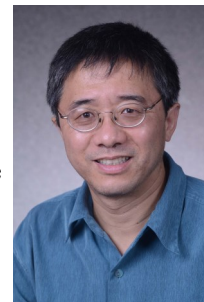
Dr. Wang became interested in Chemistry in high school and attended the University of Science and Technology of China majoring in Chemical Physics. He then attended Wayne State University to pursue his PhD with a focus on Physical Chemistry, and completed his Postdoctoral Fellowship at the University of California-Berkeley. Dr. Wang went on to become an Assistant Professor, and subsequently an Associate

Professor, at New Mexico State University. His research at NMSU focused on developing accurate theoretical methods and practical computational techniques to simulate quantum dynamics of ultrafast photoinduced electron transfer processes in the condensed phase.

In the past his research has been supported by the American Chemical Society Petroleum Fund, and he has recently been awarded grants by the National Science Foundation, and the National Energy Research Scientific Computing Center.

At the University of Colorado Denver, Dr. Wang plans to further develop the

quantum dynamics method, as well as use the multilayer multi-configuration time-dependent Hartree theory to study: charge transfer in dye-sensitized solar cells, spin diffusion and relaxation, and nonequilibrium quantum transport in condensed phases or systems at nanoscale.



Dr. Hai Lin Receives the Henry Dreyfus Teacher-Scholar Award

Associate Professor Hai Lin was selected by the Camille and Henry Dreyfus



Foundation to be one of the seven recipients of the Henry Dreyfus Teacher-Scholar Award of 2014. The award supports the research and teaching careers of talented young faculty at undergraduate institutions in

the chemical sciences, including biochemistry, materials chemistry, and chemical engineering. The selection is based on accomplishment in scholarly research with undergraduates, as well as a compelling commitment to teaching.

Dr. Lin joined the Chemistry Department

as an Assistant Professor in 2005 and was promoted to Associate Professor in 2011. In 2010, he became the first faculty member in the College of Liberal Arts and Sciences to receive the prestige National Science Foundation CAREER Award. In 2013, he and Professor Jefferson Knight received the Cottrell College Science Multi-Investigator Award by Research Corporation for Science Advancement.

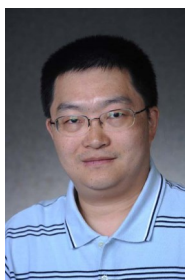
Dr. Lin's research in computational chemistry focuses on multi-scale modeling and simulation algorithms for studying chemical and biological processes in complex environments. Utilizing the modern computational techniques, Dr. Lin and his group have investigated a wide range of problems in chemistry and biochemistry including enzymatic reactions, ion solva-

tion and transport, membrane-protein associations, and structure-based drug design.

Dr. Lin enjoys teaching the General Chemistry and Physical Chemistry courses and encouraging the students to think critically and creatively. "I believe that the most important thing for an educator is to inspire." Dr. Lin said, "The biggest accomplishment I can make is to ignite the passion for sciences in those young minds and let the enthusiasm accompany them all the way into the future." Outside the classroom, Dr. Lin is devoted to promote student research. He has supervised nearly 20 undergraduate students doing research in his lab, seven have published in peer-reviewed journals and more have presented in professional conferences.

Dr. Ren Laboratory Provides Novel Findings that Help Explain the PcG-Mediated Epigenetic Memory

A multi-disciplinary team within the



University of Colorado Denver published the article "Cbx2 Stably Associates with Mitotic Chromosomes Via a PRC2 or PRC1-Independent Mechanism and is Needed for Recruiting PRC1 Complex to Mitotic Chromosomes" in the September issue of *Molecular Biology of the Cell*.

The team consisting of Chemistry As-

sistant Professor Xiaojun Ren, Chemistry MS students Chao Yu Zhen and Huy Nguyen Duc, Chemistry BS student Marko Kokotovic, and Assistant Professor Christopher Phiel (Department of Integrative Biology), have collaborated to discover that the maintenance of the PcG-mediated epigenetic inheritance through many cell generations is essential for cellular differentiation. The molecular mechanisms that regulate this process are enigmatic, the article helps explain fundamental insights to the molecular mechanisms of the PcG-mediated epigenetic inheritance. The data

point to the importance of the PcG protein Cbx2 for recruiting other members of PcG proteins to mitotic chromosomes, illustrate the marked differences of dynamics of PcG proteins binding to chromatin between interphase and mitosis, and demonstrate the recruitment and maintenance of PcG proteins on mitotic chromosomes are mechanistically uncoupled.

The successful publication of this multi-disciplinary article is a prime example of the ongoing collaborations between the Department of Chemistry and other University of Colorado Denver departments.

Teaching Assistant “Boot Camp” Program Highlighted in Chemical & Engineering News

Dr. Priscilla Burrow, and Dr. Vanessa Fishback, Senior Instructors in the Department of Chemistry, University of Colorado Denver received national attention in the September 2014 issue of Chemical & Engineering News for their “boot camp” program. Undergraduate enrollment in chemistry classes has more than doubled in the past decade resulting in the department’s creative strategy to prepare student Teaching Assistants to effectively teach General and Organic Chemistry labs.

The program prepares qualified undergraduates and incoming graduate students for their roles as instructors in the lab setting by familiarizing them with department protocols, and lab material they will be teaching. The program allows the TAs to practice their presentation skills; establish a uniformity in grading; and to develop

collaboration among the TAs, supervising faculty, and the laboratory staff.

The weeklong program, developed in 2012, is held the week prior to the beginning of the fall semester and focuses on two areas: General Chemistry (overseen by Dr. Burrow), and Organic Chemistry

(overseen by Dr. Fishback). Nearly 10% of the 300 CU Denver chemistry undergraduates are cycling back to teaching upon completing Organic Chemistry. The student Teaching Assistant program has integrated teaching as an indispensable part of the chemistry major experience.



Students learn and sharpen their skills to be teaching assistants

CU Denver Chemistry Club

The University of Colorado Denver Chemistry Club, which is a Student Affiliated American Chemical Society organization, has provided the student body and community with a number of extracurricular activities with the goal of increasing student involvement and creating a community for science students on campus.

At the beginning of the year the Chemistry Club hosted the Undergraduate Research Data event. The event helped inform students about different research opportunities that are currently available at CU Denver and how to become involved in a research group. The club also implemented Technology, Entertainment, Design (TED) Talks, and invited students to participate in large-group discussions based on the content of the TED Talks.

The Chemistry Club’s priority this year was to work more closely with the Early Learning Center on campus to provide educational activities for preschool and kindergarten students with the hope of raising student’s interest in science. These activities included demonstrations such as making liquid nitrogen ice cream and bouncy balls from glue. Additionally, for National Chemistry Week (Oct. 19th – 25th), the Chemistry Club sold its popular liquid nitrogen ice cream to students on campus while they watched club members prepare it. To end the fall 2014 semester, the Chemistry Club hosted a “Test Taking Strategy” event to help students prepare for their ACS Finals, and presented successful strategies for test taking.

It has been a very productive fall se-

mester for the Chemistry Club. They are looking forward to the spring semester when they will participate in the 249th ACS National Meeting (March 22nd – 26th) that will take place in Downtown Denver.

The Department of Chemistry would like to take a moment and congratulate the Chemistry Club and their faculty advisor Senior Instructor Marta Maroñ for being recognized as a commendable chapter for the 2013-2014 academic year by the American Chemical Society. The department would also like to congratulate Jack Henderson, Chemistry Club President, for being awarded the 2015 Student Leadership Award on behalf of the ACS Committee on Education Undergraduate Programs Advisory Board.

Obituary: Kurt Lintelmann

Kurt Lintelmann, 60, died July 20, 2014 in Centennial, Colorado. Kurt graduated from the University of Colorado Denver with a Bachelor’s Degree in Chemistry in 1983. He was an experienced analytical chemist who worked at the Marathon Oil Company facility in Littleton, Colorado for 27 years, and subsequently as the Core Analytics Group Leader at Johns Manville Technical Center in Littleton, Colorado.

Kurt published multiple articles and successfully patented a method for determining the extent of cure of binder in a product, as well as a process for recycling glass fiber. He was awarded Johns Manville Blue Ribbon Award as well as the Marathon Oil Company’s Achievement of Company Excellence. He is survived by his wife Kathleen, daughter Amy, and son Eric.



CU Denver Chemistry Faculty Publications

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